COMBUSTION AND FLAME

THE JOURNAL OF THE COMBUSTION INSTITUTE

VOLUME 107

NUMBERS 1/2

OCTOBER 1996

Contents

Simultaneous Scaler/Velocity Field Measurements in Turbulent Gas-Phase Flows	
BENOIT BÉDAT and ROBERT K. CHENG (Berkeley, CA)	
Effects of Buoyancy on Premixed Flame Stabilization	1
G. BRUNEAUX, K. AKSELVOLL (Palo Alto, CA), T. POINSOT (Toulouse, France), and J. H. FERZIGER (Palo Alto, CA)	
Flame-Wall Interaction Simulation in a Turbulent Channel Flow	2
YU. N. SHEBEKO, A. YA. KOROLCHENKO, R. R. IONAITIS, S. G. TSARICHENKO, V. YU. NAVZENYA, A. V. TRUNEV, A. A. ZAITZEV, and S. N. PAPKOV (Moscow, Russia) Flame Propagation in Mixtures of H ₂ and Air in a Tube with a Moving Water Film on the Tube's Walls	
K. N. C. BRAY (Cambridge, U.K.), M. CHAMPION (Site du Futuroscope, France), and PAUL A. LIBBY (La Jolla, CA)	
Extinction of Premixed Flames in Turbulent Counterflowing Streams with Unequal Enthalpies	53
R. L. G. M. EGGELS and L. P. H. DE GOEY (Eindhoven, The Netherlands) Post-Processing Method for Predicting NO Formation in One- and Two-Dimensional	
Premixed Methane–Air Flames	0:
G. T. LINTERIS (Gaithersburg, MD) Numerically Predicted Structure and Burning Velocity of Premixed CO–Ar–O ₂ –H ₂	
Flames Inhibited by CF ₃ H	72
YANGCHUAN XING, ÜMIT Ö. KÖYLÜ, and DANIEL E. ROSNER (New Haven, CT) Synthesis and Restructuring of Inorganic Nano-Particles in Counterflow Diffusion Flames	
GREGORIO MARBAN, FREEK KAPTEIJN, and JACOB A. MOULIJN (Delft, The Netherlands) Fuel-Gas Injection to Reduce N ₂ O Emissions from the Combustion of Coal in a Fluidized Bed	
C I CIDIC C I CIDI and C V I AW (Dringston NI)	
Analytic Description of the Evolution of Two-Dimensional Flame Surfaces	114
JOSEPH A. WEHRMEYER, SERDAR YERALAN, and KIRK S. TECU (Columbia, MO) Influence of Strain Rate and Fuel Dilution on Laminar Nonpremixed Hydrogen-Air Flame Structure: An Experimental Investigation	126
SELIM SENKAN and MARCO CASTALDI (Los Angeles, CA)	140
Formation of Polycyclic Aromatic Hydrocarbons (PAH) in Methane Combustion:	
Comparative New Results from Premixed Flames	141
A. P. ALDUSHIN (Chernogolovka, Russia), B. J. MATKOWSKY, and D. A. SCHULT (Evanston, IL) Downward Buoyant Filtration Combustion	151
JAMES F. DRISCOLL, HWANIL HUH, YOUNGBIN YOON, and JEFFREY DONBAR	
(Ann Arbor, MI) Measured Lengths of Supersonic Hydrogen-Air Jet Flames—Compared to Subsonic Flame	
Lengths—and Analysis	176
Brief Communication	
N. I. WAKAYAMA (Ibaraki, Japan), H. ITO, Y. KURODA, O. FUJITA, and K. ITO (Sapporo, Japan)	
Magnetic Support of Combustion in Diffusion Flames under Microgravity	187

COMBUSTION AND FLAME

THE JOURNAL OF THE COMBUSTION INSTITUTE

VOLUME 107

NUMBER 3

NOVEMBER 1996

Contents

The Ratio CO/CO ₂ of Oxidation on a Burning Carbon Surface	107
	19/
PER G. KRISTENSEN, PETER GLARBORG, and KIM DAM-JOHANSEN (Lyngby, Denmark) Nitrogen Chemistry During Burnout in Fuel-Staged Combustion	211
YUNG-CHENG CHEN, NORBERT PETERS, G. A. SCHNEEMANN, N. WRUCK, U. RENZ	211
(Aachen, Germany), and MOHY S. MANSOUR (Giza, Egypt)	
The Detailed Flame Structure of Highly Stretched Turbulent Premixed Methane-Air Flames	223
M. GONZALEZ (Mont-Saint-Aignan, France)	
Acoustic Instability of a Premixed Flame Propagating in a Tube	245
SONYA T. MARKS and E. METCALFE (London, U.K.)	
The Pyrolysis of Para-Toluene Isocyanate	260
T. E. PARKER, J. R. MORENCY, R. R. FOUTTER, and W. T. RAWLINS (Andover, MA)	
Infrared Measurements of Soot Formation in Diesel Sprays	271
JOHN C. CHEN (Greensboro, NC)	
Distributed Activation Energy Model of Heterogeneous Coal Ignition	291
Brief Communications	
ERNESTO MARTINEZ, JOSÉ ALBALDEJO, ELENA JIMINEZ, ALBERTO NORATIO	
(Ciudad Read, Spain), and DAVID HUSAIN (Cambridge, U.K.)	
Kinetic Studies of Fluorine Atom Abstraction by Ground State Atomic Cesium, Cs(62S1/2),	
Using Time-Resolved Laser-Induced Fluorescence [Cs($7^2P_{3/2} - 6^2S_{1/2}$), $\lambda = 455.5$ nm]	
Following Pulsed Irradiation	299
J. H TIEN (Chang-Hwa, Taiwan)	
Effects of Flame Stretch on Premixed Flame Propagation in a Closed Tube	303
S. H. STÅRNER, R. W. BILGER (Sydney, Australia), J. H. FRANK, D. F. MARRAN, and	
M. B. LONG (New Haven, CT)	207
Mixture Fraction Imaging in a Lifted Methane Jet Flame	307
KERMIT C. SMYTH and CHRISTOPHER R. SHADDIX (Gaithersburg, MD) The Flusive History of $\tilde{m} = 1.57 - 0.56i$ for the Refrective Index of Soct	214
LING MILICING MICROPHY OF M = 1.37 - 11.36/LTOP THO MATERIATIVA INCIDENCE AT NOOF	41/1

COMBUSTION AND FLAME

THE JOURNAL OF THE COMBUSTION INSTITUTE

VOLUME 107

NUMBER 4

DECEMBER 1996

Contents

C. J. SUN, C. J. SUNG, H. WANG, and C. K. LAW (Princeton, NJ)	
On the Structure of Nonsooting Counterflow Ethylene and Acetylene Diffusion Flames	21
A. W. HARDING, S. D. BROWN, and K. M. THOMAS (Newcastle upon Tyne, U.K.)	
Release of NO from the Combustion of Coal Chars	36
V. BABUSHOK, T. NOTO, D. R. F. BURGESS, A. HAMINS, and W. TSANG (Gaithersburg, MD)	
Influence of CF ₃ I, CF ₃ Br, and CF ₃ H on the High-Temperature Combustion of Methane	51
IAN M. KENNEDY, CLEMENT YAM (Davis, CA) DARRELL C. RAPP, and	
ROBERT J. SANTORO (University Park, PA)	
Modeling and Measurements of Soot and Species in a Laminar Diffusion Flame	68
KUO-CHUN WU and SIMONE HOCHGREB (Cambridge, MA)	
Chemical Kinetic Simulation of Hydrocarbon Oxidation Through the Exhaust Port of a	02
Spark Ignition Engine	53
(Matsuyama, Japan), and TOHRU KOIKE (Yokosuka, Japan)	
Shock-Tube Modeling Study of Acetylene Pyrolysis and Oxidation	01
CHRISTOPHER R. SHADDIX and KERMIT C. SMYTHE (Gaithersburg, MD)	-
Laser-Induced Incandescence Measurements of Soot Production in Steady and	
Flickering Methane, Propane, and Ethylene Diffusion Flames	18
TEODORA RUTAR, JOHN C. KRAMLICH, PHILIP C. MALTE (Seattle, WA), and	
PETER GLARBORG (Lyngby, Denmark)	
Nitrous Oxide Emissions Control by Reburning	53
A. R. SRIKRISHNAN, J. KURIAN, and V. SRIRAMULU (Madras, India)	
An Experimental Investigation of Thermal Mixing and Combustion in Supersonic Flows	54
Brief Communication	
C. H. DOUGLASS, B. A. WILLIAMS, and J. R. MCDONALD (Washington, DC)	
Low Pressure Flat Flame Studies of C ₂ F ₄ /O ₂	75
Author Index	79
Subject Index	39
Volume Contents	